CLAIMS

1. In a liquid crystal display (LCD) fabrication process, a method for cleaning a resin residue, the method comprising:

forming an electrode layer;

forming a resin residue overlying a first area of the electrode layer;

introducing a gas mixture including ozone into water to create a moist ozone gas; and,

wet ashing the resin residue overlying the first area of the electrode layer using the moist ozone gas.

2. The method of claim 1 further comprising:

following the forming of an electrode layer, forming an interlayer film of resin overlying the electrode later;

patterning the resin interlayer;

forming a via to access the first area of the electrode layer; and,

wherein forming a resin residue overlying a first area of the electrode layer includes forming a resin residue in response to forming the via.

3. The method of claim 1 wherein forming an interlayer film of resin overlying an electrode layer includes forming an interlayer film of resin having a thickness in the range of 100 to 1000 Angstroms (Å).

4. The method of claim 1 wherein introducing a gas mixture including ozone into water to create a moist ozone gas includes introducing a gas mixture of approximately 10 % ozone by molecular weight (wt %).

5. The method of claim 4 wherein introducing a gas mixture including ozone into water to create a moist ozone gas includes heating the water to a temperature of approximately 90 degrees C.

6. The method of claim 1 further comprising:

following wet ashing the resin residue overlying the first area of the electrode layer using the ozonated water, depositing a metal layer overlying the first area of the electrode to form a pixel electrode.

7. The method of claim 6 wherein depositing a metal layer overlying the first area of the electrode to form a pixel electrode includes depositing a metal layer material selected from the group including indium tin oxide (ITO) and aluminum overlying molybdenum.

8. The method of claim 1 wherein wet ashing the resin residue overlying the first area of the electrode layer using the moist ozone gas includes etching the resin residue at a rate of 200 Å per minute.

9. In a liquid crystal display (LCD) fabrication process, a method for repairing a resin interlayer surface, the method comprising:

forming an interlayer film of resin with a surface;

dry etching the surface of the resin interlayer;

in response to dry etching, damaging the resin interlayer surface;

introducing a gas mixture including ozone into water to create a moist ozone gas;

wet ashing the resin interlayer surface using the moist ozone gas; and,

in response to wet ashing the resin interlayer surface, repairing the damage caused by the dry etching.

10. The method of claim 9 further comprising:

prior to forming an interlayer film of resin, forming an underlying electrode layer;

following the forming of the interlayer film of resin, patterning the resin interlayer; and,

wherein dry etching the resin interlayer includes forming a via to access a first area of the electrode layer using a dry etching process.

11. The method of claim 9 wherein forming an interlayer film of resin includes forming an interlayer film of resin having a thickness in the range of 100 to 1000 Angstroms (Å).

12. The method of claim 9 wherein introducing a gas mixture including ozone into water to create a moist ozone gas includes introducing a gas mixture of approximately 10 % ozone by molecular weight (wt %).

13. The method of claim 12 wherein introducing a gas mixture including ozone into water to create a moist ozone gas includes heating the water to a temperature of approximately 90 degrees C.

14. The method of claim 9 further comprising:

following wet ashing the resin interlayer surface using the moist ozone gas, depositing a metal layer overlying the resin interlayer surface and the first area of the electrode to form a pixel electrode.

15. The method of claim 14 wherein depositing a metal layer overlying the resin interlayer surface and the first area of the electrode to form a pixel electrode includes depositing a metal layer material selected from the group including indium tin oxide (ITO) and aluminum overlying molybdenum.

16. The method of claim 9 wherein wet ashing the resin interlayer surface using the moist ozone gas includes etching the resin interlayer surface at a rate of 200 Å per minute.

17. The method of claim 9 wherein wet ashing the resin interlayer surface using the moist ozone gas includes etching the resin interlayer surface a thickness in the range of 100 to 500 Å.

18. The method of claim 9 wherein dry etching the surface of the resin interlayer includes dry etching with a plasma including CF4 and O2.

19. In a liquid crystal display (LCD) fabrication process, a method for repairing a resin interlayer surface, the method comprising:

forming an electrode;

forming an interlayer film of resin with a surface, overlying an electrode later;

patterning the resin interlayer;

dry etching the surface of the resin interlayer to from a via to a first area of the electrode;

in response to dry etching, damaging the resin interlayer surface;

introducing a gas mixture including ozone into water to create a moist ozone gas;

wet ashing the resin interlayer surface using the moist ozone gas;

in response to wet ashing the resin interlayer surface, repairing the damage caused by the dry etching; and,

forming a pixel electrode overlying the first area of the electrode and the surface of the resin interlayer.

20. In a liquid crystal display (LCD) fabrication process, a method for cleaning a resin residue, the method comprising:

forming an electrode layer;

forming an interlayer film of resin overlying the electrode later;

patterning the resin interlayer;

forming a via to access the first area of the electrode layer;

in response to forming the via, forming a resin residue overlying the first area of the electrode;

introducing a gas mixture including ozone into water to create a moist ozone gas;

wet ashing the resin residue overlying the first area of the electrode layer using the moist ozone gas; and,

forming a pixel electrode overlying the first area of the electrode.